

Inside TVA

looking inside
September 2005

Volume 26, Issue 7

this month's theme:
Operational Excellence

Catching the computer
creepy crawlies

page 3

Providing for a
demanding summer

page 4

Checking welds
for safety's sake

page 5

Employees always there
during time of need

page 6

CHI — gauge for change

page 7

Operational excellence

Browns Ferry Unit 1 is on schedule and on budget to return to service in 2007 as a cost-effective, emission-free source of generation. Workers prepare the stator bars in the main generator as part of the restart activities. See "Browns Ferry — ready when needed" on page 5

Special message from the chairman: Competition is here — be ready

BY CHAIRMAN BILL BAXTER

TVA is at an interesting crossroad. We are once again in the midst of a period of great change. The forces of wholesale electricity competition are upon us.

Although it has been discussed for some time as a concept, even a burning platform, concrete circumstances indicate a high likelihood that competition for TVA and more choices for our customers will be introduced into the Tennessee Valley in the very near future.

In recent years all of our major decisions at TVA have been based on the premise that competition is coming, and the message we all heard was that we have work to do to be successful in a competitive world.

We believed the most likely case to be a multi-year, phased-in approach. But that may not be the case. A recent Federal Energy Regulatory Commission ruling and a pending U.S. Senate bill could hasten the impact on our sales in Kentucky.

Competition may get here sooner than we would like. We must convince our customers, almost daily, that TVA will be their best long-term power supplier.

A healthy and constructive sense of urgency is appropriate for the immediate future. Our management of the next two or three budget cycles will be critical.

Now more than ever, it is important for us to control costs.

'The marketplace should not underestimate TVA's strengths and capabilities. We will be ready for competition.' — Chairman Baxter

Accelerated debt reduction will remain our key objective for the foreseeable future, and achieving this objective will require strong operational performance and stronger relationships with all of our customers. Each and every employee has a role to play in improving our competitive position. Our jobs depend on being the best choice for our customers.

Leadership at the top

As you all know, Congress has already acted in helping TVA prepare for competition. Last year, legislation was passed that significantly changed the governance structure of TVA. This legislation became effective May 18 of this year, and we are now awaiting the president's nomination and the Senate's confirmation of seven new directors for TVA.

Upon their arrival, Skila Harris and I will join them in forming a nine-member part-time board. Once in place, this new

board will elect its own officers, make committee assignments, adopt bylaws and name a chief executive officer.

In addition, it will go to work overseeing the performance of TVA, setting broad policy, budget, rates and executive compensation. We are hopeful that the new board will be in place and ready to go to work early this fall.

TVA's governance structure will change, but its core mission will not. Providing affordable, reliable electric power, effective environmental stewardship, integrated management of the Tennessee River System and strong economic development remain the very reasons for our continued existence.

Operational excellence

Our record-breaking performance this summer has reminded us of the importance of having all of our generating assets available to meet the growing power needs of the Valley.

It also called attention to the value of recovering Unit 1 at Browns Ferry Nuclear Plant. Bringing that unit online in 2007 will be a major milestone for TVA, as well as for the U.S. nuclear-power industry, and it will significantly improve our competitive position.

Although we have achieved and
See "Chairman's message" on page 2

what's new online

Employees work for Katrina effort



Cumberland Fossil Plant's Phillip Tidwell collected and loaded 432 cases of water the plant bought with employee donations for Hurricane Katrina evacuees.

The employee response to the TVA-wide Hurricane Katrina relief effort to collect bottled water and cash for supplies netted more than 84,000 bottles of water and more than \$212,000 in cash donations.

Employees' efforts to help those affected by the hurricane are highlighted on page 6 of this issue.

In addition, more pictures are available on the TVA internal Web site by clicking on the Team TVA heading from the homepage.

Inside TVA

Senior Manager,
Internal Communications,
Carolyn Bradley Minter
Editor, **Nancy Cann**
Art Director, **Rodney Griffin**
Photo Editor, **Cletus Mitchell**

CORRESPONDENTS

Suggestions for articles can be sent to the following correspondents:

NUCLEAR PLANTS:

Bellefonte, **Susan Gentle**
Browns Ferry, **Craig Beasley**
Sequoyah, **Kay Whittenburg**
Watts Bar, **Maureen Brown**

FOSSIL PLANTS:

Allen, **Wavine Isaac**
Bull Run, **Mary Henderson**
Colbert, **Susan Shedd**
Cumberland, **Barbara Williams**
Gallatin, **Kriste Lanus**
John Sevier, **Norma Cato**
Johnsonville, **Glenda Killen**
Kingston, **Theresa Long**
Paradise, **Beverly Morehead**
Shawnee, **Debby Abell**
Widows Creek, **Linda Mann**

RIVER SYSTEM

OPERATIONS
& ENVIRONMENT:
Research &
Technology Applications,
Terry Johnson
Environmental Policy &
Planning, **Warren Behlau**

NASHVILLE: **Phil Ivey**

TVA is an equal-opportunity and affirmative-action employer.

TVA also ensures that the benefits of programs receiving TVA financial assistance are available to all eligible persons, regardless of race, color, sex, national origin, religion, disability or age.

Inside TVA will be made available in alternate format, such as Braille, large print or audiocassette, upon request.

For information, call
865-632-4676
(TTY 865-632-2178).

Inside TVA is printed on recyclable, 30-percent post-consumer recycled paper.

Comments and suggestions are welcome. Send them to
Inside TVA,
ET 6E-K (400 W. Summit Hill Dr., Knoxville, TN 37902), or call 865-632-8004.

Inside TVA and *Inside TVA Retirees Edition* are available on the TVA external home-page — www.tva.com.



Browns Ferry completes dry-cask storage project

Workers move the first of three dry fuel containers to the storage area during the dry-cask storage project at Browns Ferry Nuclear Plant. The plant completed one more significant step toward its future at 5:54 a.m. Sept. 13, when TVA and Stone & Webster employees placed a third concrete-and-steel container on the plant's fuel-storage pad, completing the first dry-cask storage campaign in the site's history.

Browns Ferry follows the precedent set by Sequoyah Nuclear Plant in August 2004 when Sequoyah completed TVA's first dry-fuel storage campaign. Browns Ferry's second campaign will be in 2007.

The dry-cask storage facilities are needed at Browns Ferry and Sequoyah because fuel-storage pools at both plants — where used nuclear fuel is stored under water — were getting so full of used fuel that it reduced TVA's flexibility in how it performs refuelings. The Department of Energy is behind schedule for developing an underground repository for used nuclear fuel and has been unable to remove this fuel from nuclear plants.

Browns Ferry team members loaded and moved three casks of 68 fuel bundles each between July 26 and Sept. 13, and performance improved each time. Loading and placing the first container required 3,483 work hours, the second took 1,905 work hours and the third 1,679. Radiation-exposure dose rates associated with the job decreased each time — always staying within safe and acceptable limits.

Browns Ferry will conduct fuel-storage campaigns every year after 2007, removing fuel primarily from the Unit 3 fuel-storage pool.

Browns Ferry Vice President Brian O'Grady says completing the fuel-storage work moves the site closer to its final configuration and operating parameters.

"The operational flexibility we're gaining positions us well to participate in any permanent storage plans the nation develops, and the stability we gain as our major projects are completed complement our efforts to restart Unit 1 and obtain Nuclear Regulatory Commission approval for operating at increased power with a renewed operating license," he says.

INSIDE BRIEFS

TVA Nuclear

NuStart Energy Development LLC announced on Sept. 22 that it has selected Bellefonte Nuclear Plant as one of the two best sites in the country for a new nuclear plant and that it will seek a combined construction and operating license for the site.

NuStart, the nation's largest consortium of nuclear-power companies, selected Bellefonte after a rigorous evaluation process involving nuclear-plant sites across the country. NuStart will do the design and engineering work necessary to apply for a combined license with the Nuclear Regulatory Commission.

NuStart would seek a license at Bellefonte for the new Advanced Passive 1000 reactor design by Westinghouse.

NuStart also announced the selection of Entergy's Grand Gulf nuclear-plant site in Mississippi as the site to pursue a license for the

new Economic Simplified Boiling Water reactor design by General Electric. NuStart estimates design work for the two sites will cost about \$400 million.

According to NuStar's proposal, the Department of Energy would pay 50 percent of the cost to develop the combined license and complete the engineering design as part of the government's efforts to encourage nuclear investment. NuStart would pay the remaining costs.

TVA Retirement System

The TVA Board recently approved the TVA Retirement System Board's recommendation for a \$75-million contribution to TVARS for fiscal year 2006. This contribution funds pension benefits and is in addition to matching contributions of about \$18 million TVA will make to the 401(k) Plan.

Chairman's message *continued from page 1*

maintained an impressive "five nines" (99.999 percent) in power-transmission reliability, we will continue to invest annually in our transmission system for further competitive advantage. System reliability is crucial in a customer-choice market.

Valley stewardship

We will continue our aggressive program of environmental stewardship, particularly in the arena of clean air, where we are in the midst of a \$5.6-billion investment program, achieving significant reductions in emissions from our coal-fired plants and ensuring our compliance with clean-air laws and regulations. These regulations are becoming stricter each year, and with the recent promulgation of the Clean Air Interstate Rules, TVA is likely facing the expenditure of an additional \$4 billion to \$5 billion over the next 10 to 12 years to comply with these new, tougher standards.

We will continue to manage the Tennessee River System in an integrated fashion, balancing flood control, navigation, hydro-electric-power generation, economic development, recreation, water supply and quality, thermal cooling and other needs.

In the coming competitive market, TVA's excellent balanced management of the Tennessee River System will create added values

and make us a more attractive power supplier to our customers.

Economic development

TVA will continue to enhance its historic core mission of economic development through our economic-development programs, which allow us to actively partner with communities throughout the Valley to create new and improving opportunities for business growth.

Our investments in the Valley Advantage Program, low-interest loan programs, small-business programs, infrastructure programs and our Megasite Program will not only help our communities prosper, but will be good business for TVA in growing our native electric load.

Our economic-development efforts will, in effect, become business-development efforts in a competitive marketplace. These valuable programs will be a tremendous advantage as our customers consider supplier choice.

Debt repayment

Finally, the new governance structure at TVA will allow us to bring the best business and financial practices to bear on our efforts. These will include an ongoing review of our costs and efficiencies, regular benchmarking

of all of our activities, including not just operations but corporate functions as well.

And of course, we will continue to place a renewed emphasis on paying down our excessive debt and thereby reducing perhaps our most noncompetitive cost. Our strategic plan calls for paying down our statutory debt \$3 billion to \$5 billion over the next 10 to 12 years. However, with competition upon us, we must do even more in an even shorter time frame.

Clearly, we have many challenges ahead of us in the next few years here at TVA. I believe it is exciting that these challenges occur on our watch, and those of us at TVA today are the ones who have the unique opportunity to successfully meet these challenges.

We appreciate the efforts of every employee in working with the board, with President & Chief Operating Officer Tom Kilgore and the senior management team to meet and exceed our goals with this larger picture in mind.

The marketplace should not underestimate TVA's strengths and capabilities. We will be ready for competition. And the Valley will continue to prosper both economically and in quality of life as a direct result of our efforts. This is a worthy goal for all of us.



Keeping customers connected

Hurricanes, tornadoes and ice storms are the worst enemies of TVA's power-transmission system. But that's only part of the problem.

No matter what the event, Transmission/Power Supply workers quickly respond to the need, getting the power back on for the TVA system, as well as for its distribution customers. Immediately after the latest disaster in Alabama, Mississippi and Louisiana, workers were assisting customers in Mississippi. Six TVA customers and six transmission facilities were out of service. Power to all was restored within 26 hours.

"Keeping power flowing to our customers is of utmost importance," says Terry Boston, TPS executive vice president. "It can mean life or death for many people. That's why power reliability, specifically the number of connection-point interruptions, is included in our TVA Balanced Scorecard measures."

In addition to being a TPS indicator, CPI is a 50-percent weight in TVA's Customer Impact measure. To date, the measure is on target to meet the goal.

"Customers rate power reliability and competitive price as critical elements to providing quality service," says Ken Breeden, executive vice president of Customer Service & Marketing and sponsor of the Customer Impact measure. "And this directly relates to improving our customer relationships and satisfaction."

Meeting the needs during 'normal' times

Because loss of power doesn't always occur during natural disasters, TPS formed a Customer Connection Point Interruptions team in 2004 to research and reduce interruptions.

"We singled out our worst CCPI/load-not-served performers and pinpointed the reasons behind the inordinate number of interruptions," says Steve Chunn, head of the Transmission Operations & Maintenance Performance Team for CCPI Reduction.

"We could see immediately that the worst performers for service interruptions centered on 46- and 69-kilovolt lines, which comprise 20 percent of the TVA system.

"To find the root cause of the service interruptions, we then looked even deeper, ultimately finding that the problems occurred where we had changed from wood

cross arms to steel cross arms." The team uncovered the real cause of the interruptions: blistered and scorched insulators that had been damaged by lightning flashing across them to the steel cross arms. "By switching from wood, which has greater insulating properties, to steel, we reduced broken crossarms and minutes of load not served. But without installing additional lightning arrestors and insulators, we actually became more vulnerable to momentary interruptions." Since December, damaged insulators have been removed, and 2,671 strings of new insulators and 2,081 lightning arrestors have been added to the system.

Winning Performance

TVA's Six Strategic Objectives



TVA Balanced Scorecard for August

	Weight	Status	Actual YTD	Plan YTD	Year-End Forecast	GOALS		
						Target	Mid	Stretch
Financial								
• O&M Costs (\$ millions)	15%	▲	3,132	3,217	3,501	3,584	3,548	3,477
• Financial Strength (\$ millions)	15%	▲	205	296	280	225	300	440
• Productivity (kWh/\$)	10%	▲	163.4	155.7	153.7	153.7	156.9	158.5
Customer								
• Customer Impact (%)	10%	▲	106.7	100.0	104.9	100.0	103.0	107.0
• Economic Development (index)	10%	▲	123	100	118	100	110	120
Operations								
• Asset Availability (%)	20%	▲	102	98	102	98	100	102
• Environmental Impact (index)	10%	▲	57	78	68	78	73	68
People								
• Safe Workplace* (all injuries/hour worked)	10%	▼	1.76	2.12	2.12	2.12	2.12	2.06

Notes:
*Payout at any performance level is contingent upon no fatalities.
This scorecard has been posted on the Winning Performance section of TVA's internal Web site.

Status:
▲ = Forecast at or better than Target
▴ = Forecast worse than Target, but recovery is possible
▼ = Forecast worse than Target, and recovery is unlikely

Avoiding the creepy crawlies in computers

What's in a worm? Plenty, including hidden codes designed to maliciously attack and destroy computer systems at a moment's notice.

In addition, the latest threats used by attackers include data-mining techniques that install tracking devices on computers to send stored information to an outside source without the computer owner's knowledge.

The result can be millions of dollars in damages, compromise of confidential information, and loss in productivity and data integrity.

"It's almost like a sport for some people," says Anthony Smith, senior manager of Information Services IT Security. "Commonly called 'hackers' and 'crackers,' these people are constantly designing programs that can erase data, steal confidential information and leave computer systems unavailable for their users."

Smith says IS employees work diligently 24 hours a day to protect the vast information-technology infrastructure against the growing threats of worms and viruses.

"We aim to deflect an intruder before it has a chance to wreak havoc. If we detect malicious activity, IS takes immedi-



The front-line defense: from left, Telecommunications' Tommy Dempsey, IT Security's Corey Ramey and Client Services' Krystal Van Horn help detect and mitigate computer viruses coming into TVA.

ate action. Often, the issue can be handled without involving the computer user, as with most virus-and-spyware eradication methods that use automated tools."

For instance, in the time it takes you to read *Inside TVA*, Smith says IS will have blocked an average of 17 viruses and 21 instances of spyware and diverted more than 440 unsolicited junk e-mail messages.

Even more impressive: Since June, IS has diverted more than 19 million unsolicited junk-mail messages from TVA mailboxes, blocked more than 111,000 viruses from entering the network and eliminated 139,000 instances of spyware from TVA machines.

IS Senior Vice President Diane Bunch says the group enforces a multi-layer defense-in-depth approach to security to protect the computer systems from the growing threat of viruses. This concept ensures that layers of protection are centered on the network and critical systems.

"Although we are continuously improving our efforts in protection, there is not a silver-bullet solution that will eliminate all threats to the IT environment," Bunch says.

"IS strives to implement the industry's best practices and federal requirements to develop layers of defense. However, one of our most important elements of defense is the employee. We can implement strong countermeasures, but the employee — the end user — also is responsible for taking appropriate actions to protect TVA's assets and ensure daily operation." — LA'NITA JONES

Employees: essential in defense

- Here are some quick tips that can make all the difference in stopping computer viruses at TVA:
- Use caution when surfing the Internet. Information about you can be obtained with tracking devices used to infect your computer with viruses, junk e-mail or to target you in identity or financial theft.
 - Exercise caution in downloading information from Web sites. Viruses can quickly spread via downloaded materials.
 - Do not open identifiable junk e-mail or attachments. The majority of junk e-mail contains malicious contents.
 - Report suspected incidents, suspicious activity or infections immediately to the IT Service Center at 423-751-HELP (4357).
- Using TVA equipment for personal Internet browsing and e-mail messages is prohibited except for incidental, acceptable uses described in Communication Practice 7.
- Visit the IT Security Web site for additional information on how to help protect TVA's IT infrastructure.

Meeting the (hot, humid) weather challenges

The summer of 2005 produced very hot, humid weather that tested TVA's generation fleet, transmission system and employees. All responded with excellent performance.

TVA met its first peak of more than 30,000 megawatts when demand reached 31,703 on July 25. The following day another all-time system peak was recorded at 31,935 MW. However, the records for the hot, humid summer weren't limited to these two record peak days. Seventeen of TVA's top 20 peak-demand days — and 21 of the top 25 — occurred this summer.

- June — seven days in a row with peak demand of more than 29,000 megawatts.

- July — eight consecutive days with peak demand near or above 29,000 MW and record peaks for a Saturday (29,346 MW on July 23) and Sunday (29,001 MW on July 24) that were at least 7 percent higher than previous record levels.

- First half of August — average daily system peak was 28,500 MW — 16 percent higher than the same period in 2004. This is equivalent to serving additional cities the size of Memphis and Chattanooga (combined) on the peak hour.

"TVA successfully met all firm load requirements without any service interruptions," says Van Wardlaw, vice president of Electric System Operations. "But that success doesn't come without a lot of planning, coordination, communications and critical decision-making."

"Although ESO provides extensive training for its employees and uses first-class tools and planning techniques, successfully operating TVA's complex generation and transmission systems comes down to the human element of critical decision-making — particularly on a peak-demand day, when critical decisions are made every minute of the day."

From forecasting the changing demand every hour, to deciding whether to start a generating unit or purchase power from the market, the decisions are countless.

Couple this with the ever present threat of the unexpected happening — one of the 250-plus generating units or part of the 17,000 miles of transmission line spread across seven states tripping. Yet this is

business as usual for the real-time operators in the System and Regional Operations centers and those who support them.

"The stress these operators deal with is tremendous," says Wardlaw. "The impacts of their decisions affect the lives of the 8.6 million people in the Valley. The operators live in a fishbowl, and their work gets graded every two seconds."

Beyond the TVA system

TVA operators also work closely with distribution customers and directly served customers to coordinate maintenance work and restore any system outages. And due to the interconnected nature of the bulk electric system, TVA also must look beyond its borders.

"As a Reliability Coordinator for the North American Electric Reliability Council, TVA is responsible for ensuring grid reliability and providing reliability oversight for the operating entities in the TVA Reliability Area," Wardlaw says. "This includes 30,000 miles of transmission lines, 44,000 MW of utility-owned generation, 11,000 MW of independently owned generation and 40,000 MW of load across portions of 11 states."

"We're responsible for the area that includes Associated Electric Cooperative Inc., Big Rivers Electric Cooperative, Electric Energy Inc., East Kentucky Power Cooperative and TVA, which takes us from North Carolina to Oklahoma."

But the responsibility of the reliability-coordinator system operators and specialists extends even farther than the TVA Reliability Area. They must continuously monitor, analyze and coordinate the reliability of



Cletus Rodgers, NERC-certified system operator, checks generation schedules and load forecasts for the next hour in the System Operations Center.

facilities and interfaces with neighboring reliability coordinators — Entergy, Midwest Independent System Operator, PJM Interconnection, Southern Co. and VACAR (the Virginia-Carolinas area).

"Since issues anywhere in the eastern United States and Canadian grid could put reliability in the Tennessee Valley at risk, our system operators must be constantly vigilant and proactive in addressing emerging issues," Wardlaw says.

"Keeping tabs on what other operators in the eastern U.S. are doing and monitoring the stability of their systems is another part of the job that puts continuous pressure on the operators. After all, the blackout in the northeast in August 2003 started on one system but eventually impacted more than 50 million people."

— MYRA IRELAND

Power traders have formula for meeting demand

TVA's 'Plant X' is another player in the power-generation mix. This group keeps a constant 'eye on the price,' ultimately saving TVA millions of dollars.



In the Power Trading Center in Chattanooga, from left, Energy Marketing Strategist Glenn Wheeler and Hourly Traders Steve Grace and Jennifer Dixon are part of the Bulk Power Trading team that purchases power from outside marketers.

Buying when the price is low. Selling when the price is high. Sounds like the way we want our money traded in the stock market.

But in this case, it's not money — but energy — being traded. And at TVA, power traders in Bulk Power Trading make the decision hourly, daily, 'round the clock to purchase power from outside marketers.

During the record peak demands this summer, BPT was buying to supplement what TVA wasn't producing.

"On the peak day, we were purchasing 16 percent of our total system needs," says Beth Creel, BPT Senior Adviser. "And when the demand is high, the price goes up."

At 4 p.m. on Tuesday, July 26, when the average temperature across the Tennessee Valley was 95 degrees, the TVA system met the demand of 31,935 megawatts.

BPT's "Plant X" was a big factor in meeting that demand.

"We call ourselves Plant X because purchased power is another resource for supplying TVA's load," she says. "Like the operating units, we 'turn on' —

in our case 'buy' — when the market is a cheaper option than one of our units."

The cost of fuel — coal, gas and oil — for coal and combustion-turbine units continues to rise. BPT constantly balances the economics between the power market and the TVA power system.

"If the market is a cheaper resource than the cost of producing it, we buy the power," Creel says. "Conversely, if TVA has surplus power, we sell it into the market."

It all depends on the price.

"We might sell power one hour and buy it the next hour," says Jason Haile, senior power trader. "We make the best decision based on the time and the demand."

For now, purchasing power fills in the gaps when TVA power isn't available or is too costly. That should change somewhat in 2007.

"When Browns Ferry Nuclear Plant Unit 1 comes online, we can produce power more economically," Haile says. "But no matter which way the market moves or gas costs fluctuate, we'll still provide valuable services to fill in the gaps, but we won't purchase as much."

— NANCY CANN

Browns Ferry — ready when needed

When completed in 2007, Browns Ferry Nuclear Plant Unit 1 will be the first nuclear capacity to come online in the United States since Watts Bar Nuclear Plant Unit 1 began operations in 1996.

That gives TVA something to brag about.

"It also means there are a lot of folks around the country watching us," says President & Chief Operating Officer Tom Kilgore. "The nuclear-power industry has received a lot of recent attention, with President Bush promoting its benefits as a clean, safe and reliable source of power to meet our nation's energy needs. The successful restart of Browns Ferry Unit 1 can demonstrate the viability of new nuclear power to this region and the nation."

TVA Chief Nuclear Officer Karl Singer says Browns Ferry Unit 1 is on schedule and on budget to return to service in 2007 as a cost-effective, emission-free source of generation. Its 1,280-megawatt capacity will help meet the growing power demands in the Valley.

A 2004 survey by McGraw-Hill publications found Browns Ferry to be the most efficient power producer in the nation for the 2002-2004 time period.

"We anticipate the additional generation from Unit 1 will improve production costs even more," Singer says. "We believe Unit 1 will play a vital part in TVA's generation mix, as well as in the nation's energy portfolio."

Overall, the 60-month plan the TVA Board approved in May 2002 is about 67 percent complete.

By the time the skilled craft workers, engineers and support personnel complete the Unit 1 restart work, they will have installed enough electrical cable, cable conduit and steel pipe to stretch from the plant south of Athens, Ala., to the Nashville, Tenn., international airport and back — or more than 200 miles.

"The first portion of the project, which included engineering analysis and design and demolition, went very well, and we made significant gains in the schedule," says Unit 1 Restart Vice President Jon Rupert. "As expected, once the engineering and design work was complete, and we began installing equipment and

doing major modifications to bring the unit back into service, the work became more challenging. We've lost some of those initial gains, but we're still on schedule to meet the May 2007 target."

He says the importance of this project requires everyone working on Unit 1 to keep a close eye on all aspects of the project — craft utilization, production and productivity — and ensuring that sufficient work is planned ahead of craft personnel.

"We got a jump on writing work orders, which is the first step of keeping work in front of the craft," says Rupert. "Now coordination of the work planning, sequencing and materials coordination, and staging are the primary tasks to stay ahead of the craft. This challenging job requires daily management emphasis across the project."

Maintenance efforts, which include replacing nearly 250 motor-operated valves and installing 10 large pump motors, 21 large pumps and more than 800 valves of various types, are planned to be complete next fall. The modification efforts are planned to be largely complete in about 18 months.

Both efforts will end with TVA having "the newest old plant in the nation," says Rupert.

— CRAIG BEASLEY

High safety standards applauded

About 2,500 employees and contractors are working on the restart project. The goal is to finish the mechanical commodities in the dry-well this fall, then focus on similar work in the reactor building and turbine building.

While restarting the unit is one milestone for TVA, Stone & Webster employees installing the commodities have already set a high safety standard by logging more than 6.9 million

hours through mid-August without a lost-time accident and with only five recordable injuries this fiscal year.

"In fact, we've compared the Unit 1 safety record with other utilities and other engineering and construction companies, and ours is the best," says Unit 1 Restart Vice President Jon Rupert. "I appreciate that a lot."

— CRAIG BEASLEY

Internal inspectors ensure steam-generator quality

Imagine an entrepreneurial pocket at a large company that routinely saves almost \$1 million per year and wins national acclaim for innovation.

The description belongs to TVA's Inspection Services Organization, which uses X-ray, ultrasound and other technologies to examine welds and equipment at nuclear, fossil and hydro plants — work that enhances safety and reliability.

ISO's latest venture — to South Korea — wrapped up in August when team members completed the non-destructive examination of 39,000 inches of welds on four new steam generators destined to arrive at Watts Bar Nuclear Plant in late October.

"Our folks volunteered to go to South Korea to support this project," says Mike Turnbow, ISO manager. "Our highly skilled team worked closely with the Watts Bar project team. We were successful because

we planned well up front."

TVA contracted with Westinghouse Electric Corp., which subcontracted the steam-generator fabrication to Doosan Heavy Industries in Changwon. Doosan also produced Sequoyah's generators that were installed in 2003.

Steam generators are large heat exchangers, weighing about 380 tons each. They convert hot water into steam, which turns the turbine that produces electricity.

Gary Wade, project lead; Joel Whitaker, technical specialist; and examiners Robert Hardaway, Loyne Alsop and Jason Barrick performed the Watts Bar steam-generator work in Changwon. They worked from 4 p.m. to 3 a.m. each day to ensure the manufacturer could meet its schedule.

Turnbow estimates ISO saved TVA \$200,000 on

this job alone by not using external contractors.

ISO is known throughout the nuclear industry for its high-quality work and innovation, including the outage planning and inspection techniques that cut cost and radiation-exposure dose. The Electric Power Research Institute has recognized ISO many times for its work.

ISO consistently earns 90-percent approval ratings from internal customers, generates revenue through work for external customers and aggressively transfers skills to interns who will replace ISO veterans on the cusp of retirement.

— MAUREEN BROWN

Watts Bar generator project

TVA will replace the four steam generators for Watts Bar Nuclear Plant's Unit 1 reactor in the fall of 2006 during a planned refueling and maintenance outage. The project, estimated to cost \$215 million, will improve reliability of the steam generators and reduce maintenance costs.

The generators are scheduled to arrive in late October after a 50-day journey from South Korea. After crossing the Pacific Ocean and passing through the Panama Canal, they will be loaded onto barges in Mobile, Ala. Then they will travel up the Tennessee-Tombigbee Waterway to the Tennessee River and to Watts Bar. The generators will be stored at the plant until installation in 2006.

A 360-foot crane will remove the old generators through a temporary opening in Watts Bar's concrete dome and steel containment vessel. They will be stored in a reinforced concrete building with a concrete and metal roof designed to provide shielding from radiation from the old steam generators. The storage building will be sealed after the old generators are placed.

More than 40 other nuclear units in the United States — including Sequoyah Unit 1 in 2003 — have successfully completed steam-generator replacement projects. The installation contractor for the Watts Bar project, Bechtel Power Corp., has retained key staff from the Sequoyah project. The project team has reviewed more than 14,000 lessons learned from steam-generator projects to ensure Watts Bar benefits from industry experience.



Robert Hardaway (left) monitors the ultrasonic scope while Jason Barrick performs an ultrasonic examination of a steam-generator nozzle weld.



Barrick scans the weld with a transducer.

ACROSS TVA

Giving from the bottom of their hearts

'The response by employees to this relief effort was outstanding. A special thanks to all those who helped organize and pull off this effort in such a short time and, of course, to everyone who made a donation.' — Tom Kilgore, President & Chief Operating Officer

As soon as employees at Browns Ferry Nuclear Plant and Stone & Webster learned of the devastation from Hurricane Katrina Aug. 29, they went into action. Employees led the effort by collecting enough supplies from the workers at their location to fill 12-, 17- and 20-foot trailers. They hauled those trailers to Bogalusa, La., a town in need that had been largely missed by larger-scale relief efforts.

Hundreds of other employees have gone far beyond the call of duty in response to those in need following the hurricane.

In addition to the massive effort to help restore power-transmission facilities damaged by the hurricane in Louisiana, Mississippi and Alabama, employees have given from the heart as well as from their personal pocketbooks.

Through TVA's matching-funds program, TVA, its employees and retirees have donated almost half a



Leading the way to help others — TVA trucks loaded with bottled water and other supplies for helpers and victims of Hurricane Katrina leave Muscle Shoals. One truck delivered water to Franklinton, La., for Alabama Rural Electric Association linemen working on restoration, three trucks delivered water and supplies to Jackson, Miss., and one truck took water to evacuees in Gunterville. About 3,500 cases of bottled water, as well as diapers, formula and other items needed by those affected by the hurricane, were provided by employee donations.



At Allen Fossil Plant, Alfred Dyson, supervisor in Maintenance (left) and David Jones, system engineer-multi, stack cases of water provided by employees.



Knoxville retiree Max Ramsey writes a check for the Hurricane Katrina relief effort. Sherry Van Meter, TVA Retirees Association Knoxville Chapter President, collected contributions from retirees. Retirees, Bicentennial Volunteers Inc. and TVARA chapters contributed more than \$34,500 to the relief effort. TVA is matching these contributions dollar for dollar.

million dollars to the relief effort. Employees' and retirees' donations to designated agencies were matched with a TVA contribution to the American Red Cross.

Sequoyah Nuclear Plant employee contributions purchased Wal-Mart gift cards for evacuees staying in the Chattanooga area, and employees throughout the company donated 84,000 bottles of water.

Still, some have done even more — personally or through their TVA organization. Here are a few of the activities:

Members of BVI are helping with restoration efforts in some of the most heavily damaged areas along the Gulf Coast.

Communications & Government Relations members coordinated the TVA-wide bottled-water collection.

TVA has helped coordinate work crews and the delivery of materials among various distribution customers in Alabama, Mississippi and Tennessee. More than 100 TVA customer and contractor work crews have assisted with outages in these three states.

Two TPS line-construction crews completed the restoration Sept. 3 of an East Mississippi Electric Power Association transmission line that provides power to the Meridian Naval Air Station. East Mississippi EPA, a TVA customer, is in Meridian. The Navy facility has served as a staging point for Federal Emergency Management Agency relief supplies for the coastal region.

FPG employee Danny Potts was asked to go to the Meridian station before Katrina hit to keep the facility's generators working. Potts was at the station when the storm hit and helped keep the base supplied with electricity until the transmission line could be rebuilt.

FPG's Heavy Equipment Division transported about 40,000 gallons of fuel from the Kemper Combustion Turbine site near DeKalb, Miss., to the Meridian station to produce power for surrounding areas while the line was being restored. HED also has worked with the U.S. Army Corps of Engineers to provide mobile fuel tanks, fuel and personnel showers near Meridian. Other support has included providing

debris-removal equipment, such as front-end loaders, backhoes, dump trucks and fuel cells with pumps.

TPS completed repairs Sept. 1 to four damaged subtransmission structures near a Central Electric Power Association substation. Central EPA is a TVA customer in Carthage, Miss. TVA also provided a helicopter to fly representatives from Mississippi distribution customers to assess storm damage.

At the request of East Mississippi EPA, several TVA Police officers are providing protection for the distribution customer's employees, as well as security for equipment and fuel-storage facilities.

Other TVAP recovery activities have included helping coordinate and support 50-plus BVI members who are working on damage assessment, infrastructure restoration and other emergency functions at various sites.

— AMY TATE



Joe Bynum, Fossil Power Group executive vice president, carries water from an employee's car in Chattanooga.

CHI provides gauge for building a stronger culture

Employees know what is expected of them on their job. But they have not seen positive changes in their business units or plant as a result of the last Cultural Health Index survey.

That's the bottom line for this year's CHI survey results.

President & Chief Operating Officer Tom Kilgore and his direct reports have reviewed the results and the 11,000 comments from employees. They have developed a list of areas for focused improvement activities their Strategic Business Units will pursue to make positive changes in their areas, and they will report the priorities to their employees.

"After reviewing the results of the survey questions and the comments for their specific business unit, the SBU leaders and I have found alignment in four key areas," says Kilgore. "We will concentrate on improving in these areas at the TVA level."

Here are the four areas:

- Strategic Direction & Leadership
- Communication
- Compensation
- Recognition

He says several immediate and near-term actions have been identified that will contribute to improvement in these areas. Efforts are now under way to identify appropriate long-term actions for follow-up at the TVA level.

The SBU executives paid close attention to survey items that were rated extremely low, items that had declined in favorable responses since the last survey and items that compared unfavorably to industry norms.

"The questionnaire items where we need the most improvement, along with employee written comments, led us to identify these four key focus areas," Kilgore says. "I have now challenged SBU leaders to identify their organization-specific focus areas and to develop long-term action plans to determine and address root causes of these issues. We will make adjustments to these focus areas throughout the year, if necessary."

SBU-level focus areas and priorities are being finalized.

"A common action-planning process will allow for us to periodically review the status of our efforts and

CHI Cultural Health Index

make adjustments throughout the year. Beginning in January, we will monitor the resulting impact of these actions through continuous (quarterly) polling of associated CHI survey items to segments of the employee population."

Kilgore says TVA will continue to rely on employee participation and support as the process of polling segments of employees begins next January."

"I want to once again express appreciation to employees for their participation in this process. I am confident that by receiving this input from our employees and taking actions, as appropriate, we can positively impact the cultural health and performance of TVA."

TVA Today and *Inside TVA* will provide additional information about the four focus areas, as well as TVA-level CHI results, follow-up plans, best practices and indications of progress. At the SBU-level, survey results, identification of focus areas and action planning will be communicated through employees' SBU leadership.

A-C-E model used for CHI

The Cultural Health Index survey gives managers a gauge for where changes need to be made in their organization, says Mike Purcell, senior manager of Employee Technical Training & Organizational Effectiveness.

The survey questions were based on three factors, which influence and motivate performance. Employees were asked to register their comments in these areas:

Alignment — Do employees know what to do?

Capability — Can employees do their work (i.e., are the skills, knowledge and resources available)?

Engagement — Are employees motivated to do their work?

Purcell says Alignment, Capability and Engagement lay out a model of the best way for employees to contribute positively to business performance: An employee has to know what to do (Alignment); have the skills, knowledge and resources necessary to carry out the assignments (Capability); and must want to do it — that is, be motivated and psychologically involved in the work (Engagement).

A sampling of Cultural Health Index results

This year's survey contained 31 core questions, compared to 108 questions in 2003. The following are the top 10 and lowest 10 items. Percentages refer to employees expressing agreement with each item. "Change" represents the change in percentage points since the 2003 survey.

Top 10	2005	Change
I know what is expected of me on the job.	87%	+1.9
I use my top skills every day doing my job.	84.7	+6.4
I feel comfortable reporting an unsafe act or condition.	84.2	-1.2
I am proud to work at TVA.	83.8	-4.2
Identified industrial safety issues receive a high priority by my supervisor.	82.0	+1.6
My workgroup performs well as a team.	81.9	-4.8
I understand what our unit's customers expect from my unit and me.	79.3	NA
I would recommend TVA as a place to work.	77.9	-5
Overall, I am satisfied with my job at TVA.	75.0	-4.7
Overall, I am able to maintain balance between my work with TVA and my personal life at home.	73.2	-2.4

Lowest 10	2005	Change
I have the knowledge necessary to explain TVA decisions to people in the community.	63.3	-3.7
My supervisor takes the time often enough to talk about my progress on the job.	63.2	-1.7
I feel a sense of control over my work.	59.4	+5.5
I know my ideas and opinions are considered when decisions are made.	57.9	-5.0
My contributions and efforts are recognized and appreciated on a weekly basis.	48.5	-2.6
My job is not a source of major stress in my life.	48.2	-1.7
Senior management provides clear direction.	47.7	NA
I can count on senior management following through and doing what they say they will do.	43.9	NA
TVA manages its resources and business processes in a cost-effective way.	39.5	NA
I have seen positive changes in my BU/plant as a result of the last CHI.	31.9	-12.4

Stand Together To Make a Difference.

To learn how you can sign up for Green Power Switch, call your local power company or visit www.greenpowerswitch.com.

Make the Green Power Switch today.



INSIDER

Economic Development team: blue and smiling

*For Economic Development team members, code blue is a positive step.
For the Tennessee Valley, it means new jobs and growth.*

When Economic Development Senior Vice President John Bradley sends out an e-mail to all ED staff members with the subject line "Code Blue," everyone pays attention.

That's because it's good news for the Tennessee Valley.

Bradley sends Code Blue e-mail messages to celebrate a major accomplishment or to announce a new project. The e-mail usually begins with his favorite saying, "At the end of the day, the _____ company announced it is locating or expanding in _____ in the Valley and will create ____ jobs with \$____ capital investment."

Code Blue is a result of Bradley's asking several staff members to help develop a team program that would enhance communications, promote teamwork and celebrate successes. In addition, a new "name" for the ED staff — Team Blue — was initiated.

"We started calling our Economic Development staff Team Blue mainly to stress teamwork and because TVA's predominant color is blue," Bradley says.

But what about Code Blue?

"Many of our economic-development projects are very confidential and are assigned secret code names, such as Project Cedar. When we work with a site-selection consultant, we often don't know the real name of the prospective company that we are aggressively recruiting to the Valley. The projects are given code names to



Members of the Team Blue Economic Development staff who play an integral role in accomplishing ED's goals and successes are (from left) Phil Scharre, manager of Community Development; Andrea Thomas, Business Support representative; and Rachel Crickmar, specialist.

maintain confidentiality until the company is ready to formally announce.

That's how Code Blue originated."

— GLENDA BETTS

Signs of the times for operational excellence

The Economic Development office now has a new blue LED sign that shows jobs, capital investments, prospect visits and number of technical-services/community-development projects.

A collaborative TEAM BLUE community Sharepoint Web site enables employees to share best practices, find easy access to other ED Web links and resources, download marketing materials to use with clients and communities, and participate in anonymous surveys to learn more about economic development.

In addition, ED Senior Vice President John Bradley outlined the following expectations for a winning team, which lead to operational excellence for the company:

- All Economic Development employees touch projects in different ways, and each person plays an integral role in accomplishing our goals and successes.
- Our focus needs to be on teamwork. Each day you should personally ask yourself, "How am I contributing to the team today — in a positive or negative way?"
- To differentiate ourselves from the competition, we must focus on the client's needs and be creative, individually and as a team, to find solutions that will best meet the needs of our clients and our TVA distributor customers and communities.

people, plaudits and promotions

Kara Ejali, civil engineer, and **Brookes Bacon**, mechanical engineer, in River Operations-Dam Safety & Engineering in Chattanooga, recently completed the requirements of the Chief Operating Officer organization's Engineering Graduate Progression Program and have achieved the senior engineer level at TVA. This achievement represents an important milestone in the careers of these engineers.



Kara Ejali



Brookes Bacon

Melissa Morgan has been named community development project manager in TVA's Economic Development organization in Nashville. She will work throughout the Tennessee Valley to enhance TVA's efforts in community preparedness and industrial recruitment. **Jim Martin**, former director of the West Kentucky Division of the Kentucky Cabinet for Economic Development, succeeds Morgan as a field specialist in TVA's ED Kentucky region. Martin will work with TVA distribution customers, community leaders, and state and regional economic-development partners to create, sustain and foster job growth. His responsibilities include assisting prospective or expanding industries, providing financial and technical services and helping communities support and grow existing businesses.



Melissa Morgan



Jim Martin

ACROSS TVA (CONTINUED)

2005 Friendship Games — The Chattanooga Area Friendship Games 2005 raised \$1,200 for the Special Olympics. The events in this year's games were held between June 9 and Aug. 24. Employees and their spouses and children, as well as retirees, contractors and interns, participated. Here is a list of this year's top winners:

Bowling

1st :	"Spare Me" — Candy Clepper, captain	2,448
2nd:	"Four Gals & A Guy" — Trisha Kelly, captain	2,362
3rd:	"The Skilled & The Lucky" — Tracy Lewis, captain	2,352
High series (male):	David Robinson	651
High series (female):	Mary Robinson	520

Golf

1st:	Shawn Boone, Don Fletcher, Ted Myers, Donny Plant	58
2nd:	"Engleberg Hartower": Gary Engelhardt, Pam Engelhardt, Jamie Hightower, Scott Homberg	61
3rd:	Michael Kean, Britt Reid, Bret Renfroe, Bryan Sweet	62

Ping-Pong

1st:	Ron Bond
2nd:	Jeff Newton
3rd:	Drew Wilson

Softball

1st:	"Umpire's Worst Nightmare" — Vivian Jones, captain
2nd:	"Long Rangers" — Mike Clements, captain
3rd:	"Mega-Volts" — Buzz Ricks, captain

Volleyball

1st:	"Heavy Hitters" — Brett Titus, captain
2nd:	"Team Loco" — Tim Brown, captain
3rd:	"Eva's Team" — Eva Willingham, captain

Browns Ferry Nuclear Plant — The Browns Ferry fifth annual Partners In Education golf tournament raised \$78,000 that will be shared with partner schools Athens Intermediate School in Athens, G.W. Trenholm in Tuscumbia and Wilson School in Florence. Sixty-four local, national and international businesses and companies provided monetary support, items for the tournament raffle and gift bags.

Johnsonville Fossil Plant — Johnsonville Combined Federal Campaign kicked off Sept. 14, and employees already have turned in CFC pledges for about \$27,000, or about 54 percent of the plant's donation goal of \$50,000. Employees also donated more than \$2,700 through the CFC for TVA's matching-funds program for Katrina disaster relief.

Resource Stewardship — The 6th Annual TVA Tennis League, sponsored this year by Resource Stewardship, raised \$1,200 for the Partners In Education program at Norris Middle School. The school plans to use the money to help pay for the installation of LCD projectors in mathematics classrooms. The project will provide students with greater access to information available from the Worldwide Web.

Sequoyah Nuclear Plant — Employees raised \$24,000 for four local schools during the Seventh Annual Partners In Education Golf Tournament. Money from the tournament will be used during the 2005-06 school term to support a variety of academic programs and needs at the schools. Several gold-hole sponsors played a key factor in the overall success of the tournament. AREVA/Framatome, Sargent Lundy, Shaw/Stone & Webster, Siemens and Westinghouse contributed more than \$2,500. In appreciation of their support, Sequoyah will award \$500 college scholarships on their behalf to two graduating students, one from Soddy-Daisy High School and one from Sequoyah High School. Sequoyah's PIE program supports Loftis and Soddy-Daisy middle schools and Sequoyah and Soddy-Daisy high schools. In addition, Sequoyah PIE sent \$500 to the Woolmarket Elementary School in Biloxi, Miss., to help rebuild the school.